REMARKS

Claims 1-12 stand rejected under 103 as being unpatentable over AAPA in view of Wakabayashi. Claims 1, 6, 8, 9, 11 and 12 are independent. This rejection is respectfully traversed for the following reasons.

A. Claim 1

Claim 1 recites in pertinent part, "d) forming, in the buffer coat film, apertures including regions of the buffer coat film located above a periphery region having a certain distance from the periphery of the wafer, above scribe line regions and above the parts of the bonding pads, respectively." The Examiner admits that AAPA does not disclose the claimed buffer coat film and thereby relies on the teachings of Wakabayashi in an attempt to modify the buffer coat film of AAPA so as to reach the claimed invention.

As a preliminary matter, it is noted that the Examiner does not appear to identify which element of Wakabayashi allegedly reads on the claimed buffer coat film. In imposing a prior art rejection, the Examiner is required to point to "page and line" wherein an applied reference is perceived to identically disclose ***each feature*** of a claimed invention. *In re Rijckaert,* 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993)*; Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.,* 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984). Presumably, the Examiner is relying on the seal film 13 of Wakabayashi as the claimed buffer coat film (element 3 already relied on as the passivation film and element 14 relied on as the surface protection tape.

Nonetheless, it is respectfully submitted that Wakabayashi does not disclose or suggest the claimed buffer coat film so that, even assuming *arguendo* proper, the proposed combination does not disclosed the claimed invention. As seen in Figure 7 of Wakabayashi,

the only aperture formed in the seal film 13 is above the scribe line region 7. There are no apertures above a periphery region nor parts of the bonding pads 2. Indeed, the seal film 13 is intended to seal the chips in the package and therefore has no disclosed need or desire to have apertures in the manner recited in claim 1. In contrast, according to the present invention, providing apertures above the periphery and parts of the bonding pads enables a tighter peripheral seal to prevent contamination from polishing slurry, and, by having exposed bonding pads after polishing, PCM measurements/yield testing of the bonding pads for measuring the reliability of chips contacting the electrodes in the bonding pads, respectively (*see, e.g.*, page 3, lines 14-17 and page 8, lines 11-19 of Applicants' specification). Moreover, Wakabayashi is completely silent as to testing the bonding pads after the polishing process, and therefore has no disclosed need or desire to provide apertures above the bonding pads.

B. Claim 6

Claim 6 is submitted to be patentable over the proposed combination for the same reasons discussed above with respect to claim 1 and the claimed aperture above parts of the bonding pads. In addition, claim 6 further recites in pertinent part, "reducing the thickness of part of the buffer coat film located on a periphery region of the wafer having a certain distance from the periphery of the wafer". Such a construction can eliminate gap formation between tape and passivation film so as to prevent swarf contamination during polishing (*see, e.g.*, page 3, lines 18-22 and page 11, line 22 – page 12, line 4 of Applicants' specification). In contrast, as seen in Figure 7, the portion of the seal film 13 covering the alleged passivation film 3 and closest to the periphery has the same or ***greater*** thickness than other portions of the seal film 13 which cover the passivation film.

C. Claims 8 and 9

Claims 8 and 9 are submitted to be patentable over the proposed combination for the same reasons discussed above with respect to claim 1 and the claimed aperture above parts of the bonding pads. In addition, claim 8 recites in pertinent part, "bonding a surface protection tape to the wafer using an adhesive paste having a thickness between 20μm and 50μm both inclusive ... ;" and claim 9 recites in pertinent part "polishing the rear surface of the wafer using polishing slurry having a viscosity within the range of $3mm^2$/sec to $10mm^2$/sec both inclusive ... ."

The Examiner admits that AAPA does not disclose the claimed thickness and viscosity range. Nonetheless, the Examiner attempts to overcome this deficiency of AAPA by alleging that "the specification contains no disclosure of either the critical nature of the claimed dimensions or any unexpected results arising there from." However, in response to this assertion, it is respectfully submitted that Applicants' specification *does* provide criticality to the claimed thickness and viscosity, for example, at **page 3, line 23 – page 4, line 3; page 15, line 25- page 16, line 11, and page 19, lines 3+**.

According to the present invention, the claimed thickness of the adhesive and viscosity of the slurry can enable preventing swarf from coming into contact with the surface of the bonding pads during the polishing process so that reliability of the bonding can be improved. Both AAPA and Wakabayashi are completely silent as to the swarf contamination problem, let alone suggest a means by which to obviate such problem. Indeed, AAPA teaches away from having an adhesive which is thicker than the buffer coat film (i.e., 15 μm), and a slurry with the claimed viscosity (i.e., AAPA uses water having a low viscosity of $1mm^2$/sec; *see, e.g.,* page 15, lines 19-24 of Applicants' specification).

Only Applicants have recognized and considered swarf contamination, and conceived of viable solutions therefor.

D. Claims 11 and 12

Claims 11 and 12 are submitted to be patentable over the proposed combination for the same reasons discussed above with respect to claim 1 and the claimed aperture above parts of the bonding pads. In addition, claim 11 recites in pertinent part, "forming, in the buffer coat film, apertures including regions of the buffer coat film located above parts of scribe line regions and above parts of the bonding pads ***with connection parts connecting between chip regions left among the apertures***" (emphasis added). Claim 12 similarly defines "a buffer coat film that covers part of the passivation film and has apertures obtained by removing regions of the buffer coat film located ... above parts of the bonding pads with connection parts connecting between chip regions left among the apertures." An exemplary embodiment of the present invention as recited in claims 11 and 12 is illustrated in Figure 15 corresponding to page 16, line 13 - page 17. According to this aspect of the present invention, capillary intrusion of swarf can be prevented (*see, e.g.,* page 4, lines 4-8 and page 17, lines 20-26 of Applicants' specification). Again, the cited prior art is completely silent as to such swarf intrusion problems, let alone suggest a means by which to obviate such a problem.

E. Conclusion

The Examiner is directed to MPEP § 2143.03 under the section entitled "All Claim Limitations Must Be Taught or Suggested", which sets forth the applicable standard:

> To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (citing *In re Royka*, 180 USPQ 580 (CCPA 1974)).

In the instant case, the pending rejection does not "establish *prima facie* obviousness of [the] claimed invention" as recited in the independent claims because the proposed combination fails the "all the claim limitations" standard required under § 103.

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as the independent claims are patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also patentable. In addition, it is respectfully submitted that the dependent claims are patentable based on their own merits by adding novel and non-obvious features to the combination.

Based on all the foregoing, it is respectfully submitted that all pending claims are patentable over the cited prior art. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 103 be withdrawn.

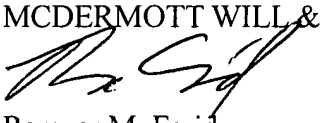
Having fully and completely responded to the Office Action, Applicants submit that all of the claims are now in condition for allowance, an indication of which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this

paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

MCDERMOTT WILL & EMERY LLP



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